

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 09/965,426  
Applicant : Gary R. DelDuca *et al.*  
Filed : September 27, 2001  
Title : Modified Atmospheric Packages and Methods for Making the Same

TC/A.U. : 1761  
Examiner : Robert A. Madsen

Docket No. : 47097-01106USC1

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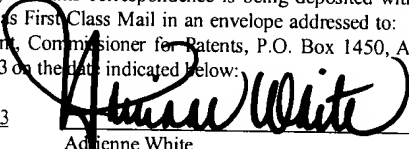
DECLARATION OF GARY R. DELDUCA  
UNDER 37 C.F.R. § 1.132

Mail Stop Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313

CERTIFICATE OF MAILING  
37 C.F.R. 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First-Class Mail in an envelope addressed to: Mail Stop Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313 on the date indicated below:

October 7, 2003  
Date

  
Adrienne White

Dear Commissioner:

I, Gary R. DelDuca, declare that:

1. I hold a degree of B.S. in Mechanical Engineering From Rochester Institute of Technology in Rochester, New York that was obtained in 1980.

2. From 1980-1995, I worked as a developmental and senior engineer for Mobil Chemical Company, Plastics Division. As a developmental engineer, I worked in process and product development in the area of foam products. As a senior engineer, some of my responsibilities included designing specialized machinery that included machinery directed to stacking trays for meat processes. Mobil Chemical Company, Plastics Division was purchased by Tenneco Inc. in 1995. From 1995 to the present, I have been a Technical Manager for Tenneco Packaging Inc. in the area of modified atmosphere packaging (MAP) for meats. My responsibilities have included designing, developing, and implementing such modified

packaging for meat and processes using the same. In 1999, Tenneco Packaging Inc. was renamed Pactiv Corporation.

4. The present invention is directed to modified atmosphere packaging and methods of making the packaging that includes carbon monoxide (CO). The invention has several advantages: (a) the "seasoning" period of the raw meat may be reduced or eliminated; (b) the ability to obtain consistent blooming with cuts off pigment-sensitive meats (*e.g.*, round bone) is improved; and (c) the ability to avoid "fixing" the color of the meat pigment to red. *See, e.g.*, page 11, line 29 - page 12, line 15; page 13, lines 11-17 of the application.

5. The "seasoning" period is the time period needed to diffuse the oxygen so that the meat has the ability to fully bloom. Page 3, lines 17-19 of the application. Trays, such as polystyrene foam trays, have a substantial amount of oxygen contained in its cellular structure that results in a time period of as long as about 5 to about 6 days to diffuse the oxygen contained in its cellular structure. Page 3, lines 21-23 of the application. If a foam tray is not used, the "seasoning" period can be reduced to one or two days. Page 3, lines 24-25 of the application. The reduction or elimination of the seasoning period "allows the meat to be displayed for retail sale much sooner than in existing low oxygen packaging systems." Page 11, line 32 - page 12, line 2 of the application. Seasoning periods are not desired by the retailers or packers because of the "need to store and maintain the meat-filled packages for an extended duration before being opened for retail sale." Page 3, lines 27-28 of the application.

6. Importantly, the present invention does not "fix" the color of the meat pigment to red with its use of CO, but rather the meat pigment tends to turn brown in a natural time period. *See* page 12, lines 10-12 of the application.

7. It is important to prevent the meat color from being "fixed" because it is unsafe (and potentially dangerous) to consume a piece of meat that has a bright red color that consumers associate with freshness, but has an unacceptable amount of bacteria. The present invention "surprisingly allows the meat pigment to convert to metmyoglobin in a similar fashion as fresh, raw meat in a retail environment." Page 12, lines 7-10 of the application. Specifically, the color of the meat after exposure to the ambient atmosphere degrades in a fashion not beyond the point of microbial soundness as if the CO had never been added to the modified packaging system.

8. The meat used in the modified atmosphere packaging of the present invention substantially maintains its color during the shipping process because the package has a modified atmosphere that includes from about 0.1% to about 0.8% CO. In one method, after removal of the substantially impermeable layer, the CO is lost to the atmosphere. See page 12, lines 2-6 of the application. The CO may be lost to the atmosphere through the first layer that includes a portion that is substantially permeable to oxygen. *Id.* and page 13, lines 5-10 of the application. This allows the conversion of the carboxymyoglobin to oxymyoglobin by using the oxygen from the air. Page 12, lines 4-7 of the application. The "gas mixture used in the modified atmosphere packages of the present invention, after removal, allows the carboxymyoglobin to convert to oxymyoglobin and then to metmyoglobin (brown) in a natural time period." Thus, the present invention does not "fix" the color. Page 12, lines 3-5 of the application.

9. Carbon monoxide (CO) has not been allowed to be used with fresh meat in the United States for about 40 years. The Food and Drug Administration ("FDA") regulation that currently prevents using CO with meat packaging systems in the United States is 21 C.F.R. § 173.350.


10. The concern of the FDA is believed to be that CO fixes the fresh meat color to a degree that allows the retailer to sell meat that looks good (a bright red color), but is unsafe and potentially dangerous to consume because it has unacceptable levels of bacteria. This act of fixing the meat color to a bright red color is referred to as "economic adulteration."

11. After about 40 years of not allowing CO to be used with fresh meats in the United States, the Applicants came up with novel approaches of using CO in modified atmosphere packaging (MAP) systems that avoided the concerns of "fixing" the meat color.

12. I hereby declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date:

10/1/03

  
3 Gary R. DeDuca